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Title: METAL SURFACES COATED WITH FLUORINATED POLYMERS

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

SIR:

Prior to calculating the national fee, and prior to examination in the National Phase of the above-identified International application, please amend as follows:

IN THE CLAIMS:

4. (Amended) Coated metal surface comprising, successively:

- a layer (1) of primer placed next to the metal and comprising an epoxy primer and 1 to 70 parts of a polymer chosen from polymers L2 which are fluoropolymers chemically modified by a partial dehydrofluorination followed by an oxidation, per 30 to 99 parts, of said epoxy primer,
- a layer (3) of fluoropolymer.

5. (Amended) A coated metal surface according to Claim 1, in which the epoxy primer is the product of the reaction of a thermosetting epoxy resin and of a hardener.

7. (Amended) A coated metal surface according to Claim 5, in which the epoxy primer has a Tg greater than 120°C.

9. (Amended) A coated metal surface according to Claim 1, containing an acrylic polymer L1 having a Tg greater than or equal to 120°C.

10. (Amended) A coated metal surface according to Claim 1, containing the chemically modified fluoropolymers wherein the fluoropolymer and the oil is hot oil which is chemically modified to obtain L2 is a fluoroplastic of a fluoroelastomer which contains units of general formula (I):



in which X and X' may be, independently of each other, a hydrogen atom, or a halogen, or a perhaloalkyl.

12. (Amended) A coated metal surface according to claim 1, in which the fluoropolymer L3 is PVDF homopolymer or a VF2-HFP copolymer.

13. (Amended) A coated metal surface according to Claim 1, in which the melting point of L3 is greater than 150°C.

14. (Amended) A coated metal surface according to Claim 3, in which the fluoropolymer of the layer (3) is PVDF homopolymer or a VF2-HFP copolymer having a melting point of at least 165°C.

15. (Amended) A coated metal surface according to Claim 1, in which the surface is an outer surface of a tube.

Please add the following new claims 16 - 20:

--16. A coated metal surface according to Claim 10, wherein said at least one X and X' is chlorine, fluorine or perfluoroalkyl.

--17. A coated metal surface according to Claim 1, wherein the metal is steel.

--18 A coated metal surface according to Claim 15, wherein the metal is steel.

--19. In a method of transporting oil through a tube, the improvement wherein the tube is in accordance with Claim 18.

--20. A method according to Claim 19, wherein the tube is in sea water and the oil is hot oil.

Claims 4,5,7 -10 and 12 - 15 were amended as follows:

4. (Amended) Coated metal surface comprising, successively:
 - a layer (1) of primer placed next to the metal and comprising an epoxy primer and 1 to 70 parts of a polymer chosen from polymers L2 which are fluoropolymers chemically modified by a partial dehydrofluorination followed by an oxidation, per 30 to 99 parts, respectively, of ~~an~~ said epoxy primer,
 - a layer (3) of fluoropolymer.
5. (Amended) A coated metal surface according to ~~any one of Claims 1 to 4~~, in which the epoxy primer is the product of the reaction of a thermosetting epoxy resin and of a hardener.
7. (Amended) A coated metal surface according to Claim 5 ~~or 6~~, in which ~~the Tg of the epoxy primer is~~ has a Tg greater than 120°C.
8. (Amended) A coated metal surface according to ~~any one of Claims 1 to 3~~, in which ~~the~~ containing an acrylic polymer L1 which is a copolymer of methyl methacrylate and of acrylic acid.
9. (Amended) A coated metal surface according to ~~any one of Claims 1 to 3~~, in which ~~the Tg of the~~ containing an acrylic polymer L1 is having a Tg greater than or equal to 120°C.



in which X and X' may be, independently of each other, a hydrogen atom, or a halogen, in particular ~~fluorine or chlorine~~, or a perhaloalkyl, in particular perfluoroalkyl.

11. Coated metal surface according to Claim 10, in which the oxidation to prepare L2 is obtained in heterogeneous aqueous medium with hydrogen peroxide (H_2O_2) or with the hypochlorite anion (ClO).—

12. (Amended) A coated metal surface according to ~~any one of~~ claims 1 to 3, in which the fluoropolymer L3 is ~~chosen from~~ PVDF homopolymer ~~or and~~ VF2-HFP copolymers.

13. (Amended) A coated metal surface according to ~~any one of~~ Claims 1 to 3, in which the melting point of L3 is greater than 150°C.

